

G. Cumulative Impacts

Cumulative impacts may result from individually minor but collectively significant actions taking place over a period of time. Cumulative impacts will be analyzed in terms of the specific resource or ecosystem that is affected.

1. Geology and Paleontology

This plan will have no appreciable effect on geologic or paleontologic resources in Carrizo or in the region. Although these resources in Carrizo will receive a greater level of protection from agricultural and rural housing development, those two activities are not anticipated to increase significantly in the region anyway.

2. Soil, Air, Hydrology

Soils resources will continue to be impacted by a variety of management actions such as grazing, road and facilities construction, mineral extraction and research. This in turn will be balanced by the reduction of farming in Carrizo as compared to the historical (pre-1990) record, and the emphasis on the reintroduction of native flora. Increased mulch levels will increase soil cover. The cumulative effect of these impacts on soil resources is anticipated to be positive, but very minor.

Air pollution impacts are negligible, since local sources are non-existent. Pollutants when present are those which are transported in from northern and eastern air basins, i.e. Bay area and San Joaquin Air Basins. Prescribed burns and wildfires contribute nominal amounts of PM10 (smoke) for short periods of time during burns; impacts are nominal since fuel types in the CPNA are light (grass and forbs) fuels which generate less smoke. Increased mulch levels from reduced grazing will reduce wind generated PM10. Road closures will reduce vehicle-produced dust, offsetting an anticipated increase in public use. The overall effect will be a positive impact to regional air quality.

Impacts to water resources are primarily those associated with effects due to livestock grazing. Under the prescribed management grazing in the CPNA will be greatly reduced under historic (pre-1990) levels. Damages due to grazing are primarily trampling in and around sag ponds, springs and channel banks, and introduction of urea nitrogen into these water resources. This reduction will lead to a net benefit to the regional water resource perspective.

3. Biotic Communities

Reintroduction of native plants and animals may impact the existing flora and fauna. The management and study of listed species and those proposed for listing will assist in maintaining them or in their recovery; candidate species may be able to avoid the need for listing. These positive impacts on sensitive species could have regional ramifications. The study of techniques used to re-establish native species may also have application within similar communities on a regional basis.

Grazing restrictions and research may decrease the availability of forage and the ease of grazing in Carrizo, negatively affecting local grazing operators. The continued availability of these lands for grazing is likewise important on a local basis. The evaluation of the compatibility of grazing as a tool for endangered species management and the restoration of native species, whether positive or negative, may have minor regional applications.

4. Cultural

The prescribed management will result in increased protection to archaeological sites. Recreation activities will be channeled away from sensitive sites to a greater extent. Recreation conflicts with Native American socio-cultural values will also be reduced.

5. Extractable Minerals

The extraction of minerals would generally involve fragmenting and reducing biotic communities, increased erosion, and visual conflicts. These expected impacts would be minimal with the mitigation proposed for the action items. Management of the CPNA is not expected to have a impact on the regional oil industry; this is due in part to the low potential for economically recoverable reserves, and due to the lack of development constraints on the largely private mineral estate of the CPNA valley floor.

6. Recreation

As roads are signed and closed, and use is limited to designated routes, there would be a loss of opportunity for off-highway travel. This is balanced by the continued purchase of private lands, which opens them up to public access. Surrounding public lands and National Forests continue to offer extensive road touring and off-road (Ballinger Canyon) opportunities. With the increasing amount of visitation, the potential for unlawful acts increases, such as the unlawful taking of animals and property. Restricting access on certain roads, closing some areas seasonally, and the use of volunteers for patrol helps to offset this.

Camping will be limited to the designated areas and the campgrounds. By limiting the camping the areas around the campgrounds, impacts will be localized. The opportunity for primitive camping will be limited in some areas, but this will be offset by continued dispersed use opportunities on other public and USFS lands in the region.

No shooting zones around the areas of high visitor use, will minimally reduce those opportunities, but extensive lands open to shooting are found in other parts of Carrizo and beyond. This decreased recreational experience in localized areas will be offset by enhanced visitor safety, and an improved experience for those who dislike shooting.

The development of trails and facilities will have a slight negative impact to the surrounding biotic communities. As visitor use increases, the definition of visitor facilities and signing will localize overall impacts and enhance regional recreational opportunities.

7. Infrastructure & Administration

The development of signs, roads, and other facilities will be offset by the removal of abandoned structures and the closure of other routes; cumulative effects should be insignificant.

8. Regional

The overall management of the CPNA will augment several ecosystem management initiatives. The goals of the CPNA dovetail with the draft Kern Valley Floor HCP in providing for management of endangered species. Carrizo also fits into Condor recovery planning efforts, which are now centered on USFS lands. The studies of grazing, native community restoration, and endangered species management within Carrizo will have potential application in similar communities throughout the southern San Joaquin Valley. Wildlife movement between adjacent lands will continue and the opportunity exists for increased use from migratory species. The CPNA safeguards a pool of resources while similar resources might be negatively affected by development in the adjacent California Valley to the north and in oilfields to the east.